

using information from the service order with the topology to select particular elements from the elements of the overall network and to select particular links between the particular elements as the path for the communications service through the overall network.

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3. The method of Claim 2, wherein using the information from the service order with the topology comprises mapping the information from the service order onto the topology.

4. The method of Claim 2 wherein the path comprises a permanent virtual circuit (PVC).

5. The method of Claim 2, further comprising:
assigning an identifier to the path.

6. The method of Claim 5, wherein the identifier comprises a unique identifier.

7. The method of Claim 2, further comprising:
prior to storing the topology, creating the topology of the overall network.

8. The method of Claim 7, wherein the overall network comprises a digital subscriber line (DSL) network or an asynchronous digital subscriber line (ADSL) network;
and

wherein creating the topology of the overall network comprises creating the topology to include the DSL network or the ADSL network.

A | 9. The method of Claim 7, wherein creating the topology comprises modeling the elements and modeling the links among the elements.

CONT 10. The method of Claim 7, wherein creating the topology comprises creating the topology to include respective locations of the elements.

11. The method of Claim 10, wherein a location of an element comprises a building location; and

wherein creating the topology to include the respective locations of the elements comprises creating the topology to include the building location of the element.

12. The method of Claim 11, wherein a building location of the element comprises a common location language identifier (CLLI), a network site, and a local access and transport area (LATA) name; and

wherein creating the topology to include the building location comprises creating the topology to include the CLLI, the network site, and the LATA name.

13. The method of Claim 7, wherein creating the topology comprises creating the topology to include respective configurations of the elements.

14. The method of Claim 13, wherein creating the topology to include the respective configurations of the elements comprises:

retrieving a configuration of an element from the element; and

including the retrieved configuration of the element in the topology.

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15. The method of Claim 7, wherein creating the topology comprises creating the topology to include respective locations of the links.

16. The method of Claim 15, wherein a link connects at least two elements with each element having a location; and

wherein creating the topology to include the respective locations of the links comprises creating the topology to include an association among the link, the at least two elements, and each respective location of the at least two elements.

17. The method of Claim 7, wherein creating the topology comprises creating the topology to include respective configurations of the links.

18. The method of Claim 17, wherein a configuration of a link comprises a common location language identifier (CLLI), a circuit identifier, and a circuit type; and

wherein creating the topology to include the respective configurations of the links comprises creating the topology to include the CLLI, the circuit identifier, and the circuit type for the link.

19. The method of Claim 2, wherein the overall network comprises a digital subscriber line (DSL) network or an asynchronous digital subscriber line (ADSL) network; and

wherein using the information from the service order with the topology comprises using the information to select a particular element from the DSL network or the ADSL network as a part of the path for the communications service through the overall network.

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20. The method of Claim 19, wherein the digital subscriber line (DSL) network or the asynchronous digital subscriber line (ADSL) network comprises a digital subscriber line access multiplexer (DSLAM); and

wherein using the information to select the particular element from the DSL network or the ADSL network comprises using the information to select the DSLAM as the part of the path.

21. The method of Claim 19, wherein the digital subscriber line (DSL) network or the asynchronous digital subscriber line (ADSL) network comprises a mini-ram (MR); and

wherein using the information to select the particular element from the DSL network or the ADSL network comprises using the information to select the MR as the part of the path.

22. The method of Claim 2, wherein the overall network comprises an asynchronous transfer mode (ATM) network; and

wherein using the information from the service order with the topology comprises using the information to select a particular element from the ATM network as a part of the path for the communications service through the overall network.

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23. The method of Claim 22, wherein the asynchronous transfer mode (ATM) network comprises an ATM switch; and

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wherein using the information to select the particular element from the ATM network comprises using the information to select the ATM switch as the part of the path.

24. The method of Claim 2, wherein the information in the service order comprises a telephone number, an identifier for the service provider, and a universal service order code (USOC); and

wherein using the information from the service order comprises using the telephone number, the identifier for the service provider, and the USOC with the topology to select the particular elements and to select the particular links as the path for the communications service.

25. The method of Claim 24, wherein the identifier for the service provider comprises a circuit identifier for the service provider and a virtual path identifier (VPI) for the service provider.

26. A method for defining a permanent virtual circuit (PVC) through an overall network for communications service between a unit and a service provider, the overall network including a telecommunications network with a central office serving the unit, a digital subscriber line (DSL) network, and an asynchronous transfer mode (ATM) network, the method comprising:

 creating a topology of the overall network including elements and links among the elements by

 including the respective building locations and configurations of the elements in the topology, a building location of an element including a common location language identifier (CLLI), a network site, and a local access and transport area (LATA) name, and a configuration of the element being retrieved from the element, and

 including the respective locations and configurations of the links in the topology, a link connecting at least two elements with each element having a location, and a location of the link including an association among the link, the two elements, and each respective location of the at least two elements, and a configuration of the link including a link common location language identifier, a circuit identifier, and a circuit type;

 receiving a service order for provision of the communications service between the unit and the service provider with information in the service order including a telephone number, an identifier for the service provider, and a universal service order code (USOC);

 mapping the information from the service order onto the topology by using the telephone number, the identifier for the service provider, and the USOC with the topology to select particular elements from the elements of the overall network and to select particular links between the particular elements as the PVC for the communications service through the

overall network, the PVC including the central office from the telecommunications network, a digital subscriber line access multiplexer (DSLAM) and a mini-ram (MR) from the DSL network, and an ATM switch from the ATM network; and

assigning a unique identifier to the PVC.

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27. A system for defining a path through an overall network for provision of communications services between a unit and a service provider, comprising:

a topology of elements and links linking the elements of the overall network; information about the unit and about the communications services to the unit; and a mapper for mapping the information onto the topology to obtain particular elements from the elements of the overall network and to obtain particular links between the particular elements from the links linking the elements of the overall network,

whereby the particular elements and the particular links between the particular elements constitute the path for communications services between the unit and the service provider.

28. The system of Claim 27, wherein the path comprises a permanent virtual circuit (PVC).

29. The system of Claim 27, wherein the path comprises an identifier.

30. The system of Claim 29, wherein the identifier comprises a unique identifier.

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31. The system of Claim 27, wherein the overall network comprises a digital subscriber line (DSL) network or an asynchronous digital subscriber line (ADSL) network including a digital subscriber line access multiplexer (DSLAM) and a mini-ram (MR); wherein the topology of the elements comprises the DSLAM and the MR; and wherein the particular elements comprise the DSLAM and the MR so the DSLAM and the MR are included in the path.

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32. The system of Claim 27, wherein the overall network comprises an asynchronous transfer mode (ATM) network including an ATM switch; wherein the topology of the elements comprises the ATM switch; and wherein the particular elements comprise the ATM switch so the ATM switch is included in the path.

33. The system of Claim 27, wherein the overall network comprises a telecommunications network including a central office serving the unit; wherein the topology comprises the central office; and wherein the particular elements comprise the central office so the central office is included in the path.

34. The system of Claim 27, wherein the topology comprises respective locations of the elements.

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35. The system of Claim 27, wherein a location of an element comprises a building location; and

wherein the topology comprises the building location of the element.

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36. The system of Claim 35, wherein the building location of the element comprises a common location language identifier (CLLI), a network site, and a local access and transport area (LATA) name.

37. The system of Claim 27, wherein the topology comprises respective configurations of the elements.

38. The system of Claim 37, wherein a configuration of an element is retrieved from the element and the retrieved configuration of the elements is included in the topology.

39. The method of Claim 27, wherein the topology comprises respective locations of the links.

40. The method of Claim 39, wherein a link connects at least two elements with each element having a location; and

wherein the topology comprises an association among the link, the at least two elements, and each respective location of the two elements.

41. The method of Claim 27, wherein creating the topology comprises creating the topology to include respective configurations of the links.

42. The method of Claim 41, wherein a configuration of a link comprises a common location language identifier (CLLI), a circuit identifier, and a circuit type.

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43. The method of Claim 27, wherein the information in the service order comprises a telephone number, an identifier for the service provider, and a universal service order code (USOC).

44. The method of Claim 43, wherein the identifier for the service provider comprises a circuit identifier for the service provider and a virtual path identifier (VPI) for the service provider.

45. A system for defining a private virtual circuit (PVC) through an overall network for communications services between a unit and a service provider, the overall network including a telecommunications network with a central office serving the unit, the overall network also including a digital subscriber line (DSL) network with a digital subscriber line access multiplexer (DSLAM) and a mini-ram (MR), and the overall network further including an asynchronous transfer mode (ATM) network with an ATM switch, the system comprising:

 a topology of elements and links linking the elements of the overall network; the topology including respective locations and configurations of the elements and of the links,

a location of an element comprising a building location having a common location language identifier (CLLI), a network site, and a local access and transport area (LATA) name, and

a configuration of an element being retrieved from the element,

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a link connecting at least two elements with each element having a location with the topology including an association among the link, the at least two elements, and each respective location of the two elements, and

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a configuration of a link comprising a common location language identifier (CLLI), a circuit identifier, and a circuit type;

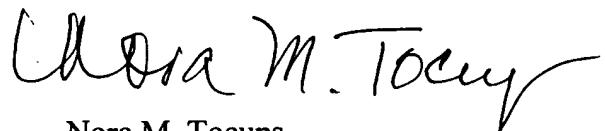
the topology including the central office, the DSLAM, the MR, and the ATM switch;

information about the unit and about the communications services to the unit with the information comprising a telephone number, a circuit identifier for the service provider, a virtual path identifier (VPI) for the service provider, and a universal service order code; and

a mapper for mapping the information onto the topology to obtain particular elements from the elements of the overall network and to obtain particular links between the particular elements from the links linking the elements of the overall network, the particular elements including the central office, the DSLAM, the MR and the ATM switch,

whereby the particular elements and the particular links between the particular elements constitute the PVC for communications services between the unit and the service provider, and with the PVC having a unique identifier.

Respectfully submitted,



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